

### **DETAILED ACTION**

1. Acknowledgement is made of the amendment received on 06/22/2009.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephonic interview with John Fitzpatrick on November 17, 2009.

The claims in the application have been amended as follows:

In claims:

**(1) Replace claim 16 with:**

A quarter-rate phase detector comprising:

a first set of four latches controllable to latch, at different times according to quadrature clock signals, respectively, data received by the quarter-rate phase detector so as to form a first set of latched signals output to a phase-error generating circuit;

a second set of four latches arranged to receive outputs of the first set of latches, respectively, and controllable to latch data at different times according to the quadrature

clock signals, respectively, so as to form a second set of latched signals output to determine a reference signal, wherein

the phase-error generating circuit comprising:

four XOR gates receiving the first set of latched signals, each of the XOR gates receiving the first set of latched signal and its inverted counterpart corresponding to input data latched according to one of quadrature clock signals, respectively, each XOR gate generating an intermediate signal forming four intermediate signals; and

a multiplexer to selectively output one of the four intermediate signals as a phase error signal.

***Allowable Subject Matter***

3. Claims 1-19 and 21-23 are allowed.

4. The following is a statement of reasons for allowable subject matter:

The prior art of record, Kocaman et al. does not teach or suggest a second set of four latches arranged to receive outputs of the first set of latches, respectively, and controllable to latch data at different times according to the quadrature clock signals, respectively, so as to form a second set of latched signals.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kabir A. Timory whose telephone number is 571-270-1674. The examiner can normally be reached on 6:30 AM - 3:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kabir A Timory/

Examiner, Art Unit 2611

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611